

Amendments to the Claims**1. (Previously Presented) A link layer controller comprising:**

a network layer interface configured to exchange packets with a network layer system and transfer a status signal to the network layer system;

a physical layer interface configured to exchange the packets with a physical layer system;

a memory comprising a plurality of transmit buffers, wherein each of the plurality of transmit buffers corresponds with a transmit channel of a plurality of transmit channels; and

a memory controller configured to exchange the packets with the network layer interface, exchange the packets with the memory, exchange the packets with the physical layer interface, determine available space in at least one of the plurality of transmit buffers, if occupancy on a first transmit buffer corresponding with a first transmit channel exceeds a threshold, then prioritize the transmit channels to transmit packets from the first transmit buffer corresponding with the first transmit channel, and generate the status signal to control transfer of packets to prevent over-run in the plurality of transmit buffers.

2. (Previously Presented) The link layer controller of claim 1 wherein the status signal indicates the available space in each of the transmit buffers.

3. (Original) The link layer controller of claim 2 wherein the memory controller is configured to control a size of each of the transmit buffers in response to external instructions.

4. (Cancelled)

5. (Original) The link layer controller of claim 1 wherein the network layer interface is configured to use a packet exchange bus to exchange the packets with the network layer system and to transfer the status signal to the network layer system.

6. (Original) The link layer controller of claim 5 wherein the network layer interface is configured to use the packet exchange bus to exchange parity information with the network layer system.
7. (Original) The link layer controller of claim 5 wherein the network layer interface is configured to use the packet exchange bus to exchange data validity information with the network layer system.
8. (Original) The link layer controller of claim 5 wherein the network layer interface is configured to use the packet exchange bus to exchange start of packet information and end of packet information with the network layer system.
9. (Original) The link layer controller of claim 5 wherein the network layer interface is configured to use the packet exchange bus to transfer a synchronization signal to the network layer system.
10. (Original) The link layer controller of claim 5 wherein the network layer interface is configured to use the packet exchange bus to exchange stop transfer signals with the network layer system.

11. (Previously Presented) A method of operating a communications device that includes a memory comprising a plurality of transmit buffers, wherein each of the plurality of transmit buffers corresponds with a transmit channel of a plurality of transmit channels, the method comprising:

- transferring packets between a network layer system and a link layer system;
- transferring the packets between the link layer system and a physical layer system;
- transferring the packets between the physical layer system and a communication path;
- generating a status signal in the link layer system indicating available space in each of the plurality of transmit buffers; and

if occupancy on a first transmit buffer corresponding with a first transmit channel exceeds a threshold, then prioritizing the transmit channels to transmit packets from the first transmit buffer corresponding with the first transmit channel.

12-13. (Cancelled)

14. (Previously Presented) The method of claim 11 further comprising:

controlling a size of each of the transmit buffers in the link layer system in response to instructions from the network layer system.

15. (Previously Presented) The method of claim 11 wherein transferring the packets between the network layer system and the link layer system comprises using a packet exchange bus.

16. (Original) The method of claim 15 further comprising transferring parity information over the packet exchange bus.

17. (Original) The method of claim 15 further comprising transferring data validity information over the packet exchange bus.

18. (Original) The method of claim 15 further comprising transferring start of packet information and end of packet information over the packet exchange bus.

19. (Original) The method of claim 15 further comprising transferring a synchronization signal over the packet exchange bus.

20. (Original) The method of claim 15 further comprising transferring stop transfer signals over the packet exchange bus.